

Amendment to the Claims:

Please cancel claims 1-20 in favor of a continuing application.

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
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18. (Cancelled)
19. (Cancelled)
20. (Cancelled)

21. (Presently Amended) A hydrogen storage alloy comprising:
an Mg-Ni based alloy;
said alloy having a microstructure including a both a Mg-rich phase and a Ni-rich phase;
said microstructure further including micro-tubes having an inner core of Ni-rich material surrounded by a sheathing of Mg-rich material.

22. (Original) The hydrogen storage alloy of claim 21, wherein said two phase microstructure includes amorphous structural regions and microcrystalline structural regions.

23. (Original) The hydrogen storage alloy of claim 21, wherein said Mg-Ni based alloy has a magnesium content which ranges from 40 to 65 atomic percent of the alloy.

24. (Original) The hydrogen storage alloy of claim 24, wherein said Mg-Ni based alloy has a magnesium content which ranges from 45 to 65 atomic percent of the alloy.

25. (Original) The hydrogen storage alloy of claim 21, wherein said Mg-Ni based alloy has a nickel content which ranges from 25 to 45 atomic percent of the alloy.

26. (Original) The hydrogen storage alloy of claim 25, wherein said Mg-Ni based alloy has a nickel content which ranges from 30 to 40 atomic percent of the alloy.

27. (Original) The hydrogen storage alloy of claim 21, wherein said Mg-Ni based alloy further contains manganese and cobalt.

28. (Original) The hydrogen storage alloy of claim 27, wherein said Mg-Ni based alloy has a cobalt content is between 1 and 10 atomic percent of the alloy.

29. (Original) The hydrogen storage alloy of claim 28, wherein said Mg-Ni based alloy has a cobalt content is between 2 and 6 atomic percent of the alloy.

30. (Original) The hydrogen storage alloy of claim 27, wherein said Mg-Ni based alloy has a manganese content is between 1 and 10 atomic percent of the alloy.

31. (Original) The hydrogen storage alloy of claim 30, wherein said Mg-Ni based alloy has a manganese content is between 3 and 8 atomic percent of the alloy.

32. (Presently Amended) The Mg-Ni composite material of claim 27, wherein said Mg-Ni based alloy further contains at least one element selected from the group consisting of Fe, Al, Zr, Zn, Cu, Ag, Cu, B, La, Ru, Re, Li, Cr, Pd, Si, V, Sr, Misch Metal and mixtures or alloys thereof.

33. (Presently Amended) The hydrogen storage alloy of claim 32, wherein said at least one element selected from the group consisting of Fe, Al, Zr, Zn, Cu, Ag, Cu, B, La, Ru,

Re, Li, Cr, Pd, Si, V, Sr, Misch Metal and mixtures or alloys thereof is incorporated into the alloy in quantities totaling less than about 5 atomic percent of the alloy for all inclusions and each individual element is incorporated into said alloy in quantities less than about 3 atomic percent.

34. (Presently Amended) The hydrogen storage alloy of claim 21, wherein said microstructure is created prepared by a process comprising the steps of:

forming a melt of the desired composition of the alloy;

melt quenching said melt onto a chill roller to form melt-quenched alloy ribbons, wherein the parameters of said melt-quenching parameters are controlled such that said melt-quenched alloy ribbons have a two phase microsrtructure including a Mg-rich phase and a Ni-rich phase;

grinding said melt-quenched ribbons in an attritor to for a time sufficient time to accomplish the following:

1) for form a powder from said melt-quenched ribbons;

2) form said micro-tubes; and

3) produce a mixture of amorphous structural regions and microcrystalline regions.